

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (cancelled)

2. (previously presented) A lead frame comprising:

a tie bar to which an element loading portion to be loaded with a semiconductor element is connected by a lead forming portion;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for preventing said outside frame from deforming under extraneous physical stress,

the deformable portion comprising a locally thinned portion,

wherein said locally thinned portion comprises a rod portion smaller in width than the tie bar and is configured to deform during lead forming, which bends said lead forming portion, to thereby absorb stress acting on said tie bar.

3. (previously presented) A lead frame comprising:

a tie bar to which an element loading portion to be loaded with a semiconductor element is connected by a lead forming portion;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for preventing said outside frame from deforming under extraneous physical stress,

the deformable portion comprising a locally thinned portion,

wherein said locally thinned portion comprises a link connecting said tie bar to said outside frame, said link having two end portions and an intermediate portion, a diameter of the intermediate portion being smaller than a diameter of either of said two end portions, the link configured to absorb a force pulling said tie bar toward said element loading portion.

4. (previously presented) A lead frame comprising:

a tie bar to which an element loading portion to be loaded with a semiconductor element is connected by a lead forming portion;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for preventing said outside frame from deforming under extraneous physical stress,

the deformable portion comprising a locally thinned portion,

wherein said locally thinned portion comprises a link connecting said tie bar to said outside frame, said link having deformable shape in a form of narrow steps.

5-6. (cancelled)

7. (previously presented) A frame comprising a combination of lead frames arranged such that element loading portions to be loaded with semiconductor elements thereof are positioned one above the other, said lead frames each comprising:

a tie bar to which the element loading portions are connected by lead forming portions;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for preventing said outside frame from deforming under physical stress,

the deformable portion comprising a locally thinned portion, wherein,

the element loading portions of only one of the lead frames are bent relative to lead forming portions associated therewith, and

said deformable portion is sealed with resin to thereby form a reinforcing portion that prevents said deformable portion from deforming after lead forming.

8. (previously presented) A frame comprising a combination of lead frames arranged such that element loading portions to be loaded with semiconductor elements thereof are positioned one above the other, said lead frames each comprising:

a tie bar to which the element loading portions are connected by lead forming portions;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for preventing said outside frame from deforming under physical stress,

the deformable portion comprising a locally thinned portion, wherein,

the element loading portions of only one of the lead frames are bent relative to lead forming portions associated therewith, and

the lead forming portions are bent while being crushed to be locally thinned and extended.

9. (original) The frame as claimed in claim 8, wherein said reinforcing portion includes said deformable portion and a portion of said outside frame to which said deformable portion is connected.

10. (original) The frame as claimed in claim 9, wherein said deformable portion prevents the positioning holes and the element loading portions from being displaced to thereby maintain a preselected positional relation between said positioning holes and said element loading portions.

11. (cancelled)

12. (previously presented) A semiconductor device comprising:

a pair of element loading portions loaded with semiconductor elements and positioned one above the other within a light-transmitting resin,

seal resin sealing said pair of element loading portions within the light-transmitting resin,

leads connected to a respective semiconductor element being exposed on said seal resin, and

a photocoupler comprising a light-emitting element and a light-sensitive element that face each other,

wherein one of said pair of element loading portions is an unbent element loading portion unbent within the light-transmitting resin.

13. (previously presented) The semiconductor device as claimed in claim 12, wherein said light-emitting element is loaded on the unbent element loading portion within said light-transmitting resin.

14. (previously presented) The semiconductor device as claimed in claim 23,

wherein the leads are implemented by lead forming portions included in a frame used to form semiconductor devices, said frame comprising a combination of lead frames each comprising:

a tie bar to which the element loading portions are connected by lead forming portion;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for protecting said outside frame from deforming.

15. (previously presented) A method of producing a semiconductor device by using a frame, said method comprising:

bending lead forming portions after primary sealing using light-transmitting resin; and

sealing deformable portions included in a lead frame after said bending,

wherein said bending comprises bending the lead forming portions while crushing said lead forming portions to thereby locally thin and extend said lead forming portions.

16-18. (cancelled)

19. (previously presented) A method of producing a semiconductor device by using a frame, said method comprising:

bending lead forming portions after primary sealing using light-transmitting resin; and

sealing deformable portions included in a lead frame after said bending,

wherein said frame comprises a combination of lead frames each comprising:

a tie bar to which element loading portions are connected by lead forming portions;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for protecting said outside frame from deforming.

20. (previously presented) A lead frame comprising:

a tie bar to which an element loading portion to be loaded with a semiconductor element is connected by a lead forming portion;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for preventing said outside frame from deforming under extraneous physical stress,

wherein said deformable portion comprises a link connecting said tie bar to said outside frame, said link comprising plural adjacent and spaced apart deformable elements.

21. (previously presented) A lead frame comprising:

a tie bar to which an element loading portion to be loaded with a semiconductor element is connected by a lead forming portion;

an outside frame formed with positioning holes, said tie bar being connected to said outside frame; and

a deformable portion included in said tie bar for preventing said outside frame from deforming under extraneous physical stress,

wherein the deformable portion comprises a deformable link connecting said tie bar to said outside frame, said link being deformable so as to absorb a force pulling said tie bar toward said element loading portions.



22. (previously presented) The lead frame of claim 21, wherein said link has a width smaller than a width of said tie bar.

23. (previously presented) The semiconductor device of claim 13, wherein said unbent element loading portion is positioned below a bent element loading portion.